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Application No.: 09/891,865

This listing of claims will replace all prior versions, and listings, of claims in the application:

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Listing of Claims:

- 1-42. (Cancelled)
- 43. (Previously presented) A plasmid vector selected from those having sequence: SEQ ID NO: 1, SEQ ID NO: 2, SEQ ID NO: 3, SEQ ID NO: 4, SEQ ID NO: 5, SEQ ID NO: 6, SEQ ID NO: 7, SEQ ID NO: 8, SEQ ID NO: 9, SEQ ID NO: 10, SEQ ID NO: 12, SEQ ID NO: 13, SEQ ID NO: 14 and SEQ ID NO: 15.
 - 44. (Cancelled)
 - 45. (Cancelled)
- 46. (Currently amended) A host eells cell according to claim [[44]] 63, wherein the host cells are cells of cell is an E. coli strain K12 or an [[of]] E. coli strain B.
 - 47. (Cancelled)
- 48. (Currently amended) A Method method of producing a polypeptide polypeptides having at least one of uridine phosphorylase enzyme activity and purine nucleoside phosphorylase enzyme activity comprising culturing host cells containing a recombinant plasmid expression vector according to claim [[31]] 63 under conditions to express said polypeptide.
- 49. (Withdrawn; Currently amended) <u>A Method method</u> of catalyzing transglycosylation reactions between a donor nucleoside and an acceptor base comprising culturing host cells containing a recombinant plasmid expression vector according to claim [[31]] <u>63</u>.
- 50. (Withdrawn; Currently amended) A The method according to claim 49, wherein the acceptor base is a purine and/or pyrimindine or pyrimidine base.
- 51. (Withdrawn; Currently amended) A The method according to claim 50, wherein the purine and/or or pyrimidine bases are base is selected from natural or substituted pyrimidine and

purine bases; purine bases substituted at at least one of the 1, 2 and 6 positions of the purine ring; pyrimidine bases substituted at at least one of the 3 and 5 positions of the pyrimidine ring; purine, 2-azapurine, 8-azapurine, 1-deazapurine (imidazopyridine), 3-deazapurine, and 7-deazapurine.

- 52. (Withdrawn; Currently amended) A The method according to claim 49, wherein the acceptor bases are constituted by heterocyclic compounds containing at least one nitrogen atom, such as, for example, imidazoles, triazoles and pyrazoles.
- 53. (Withdrawn; Currently amended) <u>A</u> The method according to claim 49, wherein the donor nucleoside is selected from nucleosides containing <u>D-ribose</u> and 2'deoxyribose; nucleosides containing the ribose group modified in the 2', 3' and /or 5' positions; nucleosides in which the sugar is β-D-arabinose, α-L-xylose, 3' deoxyribose, 3',5' dideoxyribose, 2',3' dideoxyribose, 5'-deoxyribose, 2',5'-dideoxyribose, 2' amino 2' deoxyribose, 3' amino 3'-deoxyribose, 2' fluoro 2'-deoxyribose.

54-57. (Cancelled)

- 58. (Currently Amended) A method for producing a fusion protein having the activity of both uridine phosphorylase and purine nucleoside phosphorylase enzymes, said method comprising:
 - a) producing a plasmid expression vector according to claim 40;
- ba) transforming culturing a host bacteria cell according to claim 65 with said expression vector; and
 - c) isolating and purifying the fusion protein from the transformed bacteria cell.
- 59. (Previously presented) A method according to claim 58 wherein said host bacteria cells are cells of *Escherichia coli*.
- 60. (Withdrawn; Previously presented) A fusion protein obtainable from the method according to claim 58.

61-62. (Cancelled)

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63. (Currently Amended) A transformed prokaryotic host cell expressing 120-1000 times higher uridine phosphorylase activity, purine nucleoside phosphorylase activity, or both, than the corresponding non-transformed prokaryotic host cell, the transformed prokaryotic host cell harboring a plasmid expression vector comprising:

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- a) at least one a gene sequence of a mesophilic bacterium coding for a polypeptide having uridine phosphorylase enzyme activity, wherein said gene comprises the sequence of nucleotides 243 to 1021 of SEQ ID NO: 6 and at least one a gene sequence of a mesophilic bacterium coding for a polypeptide having purine nucleoside phosphorylase enzyme activity, wherein said gene comprises the sequence of nucleotides 1037 to 1766 of SEQ ID NO: 6; and
- b) at least one gene sequence coding for tetracycline and/or or kanamycin resistance or a combination thereof.
- 64. (Previously presented) A transformed prokaryotic host cell according to claim 63, wherein the host cell is an *E. coli* cell.
- 65. (Currently amended) A host cell plasmid vector according to claim 63, wherein the gene sequence coding for [[a]] the polypeptide having uridine phosphorylase enzyme activity and the gene sequence coding for [[a]] the polypeptide having purine nucleoside phosphorylase enzyme activity are fused together so to express a fusion protein wherein the enzymes uridine phosphorylase and purine nucleoside phosphorylase are covalently bonded together.
- 66. (Currently amended) A host cell plasmid vector according to claim 63, wherein the gene sequence coding for a polypeptide having uridine phosphorylase enzyme activity and the gene sequence coding for a polypeptide having purine nucleoside phosphorylase enzyme activity are fused together so to express a fusion protein wherein the enzymes uridine phosphorylase and purine nucleoside phosphorylase are bonded together by a polypeptide linker of more than one amino acid.
- 67. (New) A host cell according to claim 63, wherein the gene sequence encoding a polypeptide having uridine phosphorylase enzyme activity, the gene sequence of a mesophilic bacterium coding for a polypeptide having purine nucleoside phosphorylase enzyme activity, a gene

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sequence coding for at least one of tetracycline and kanamycin resistance, and a transcription control sequence, are cloned into plasmid pUC18.

- 68. (New) A host cell according to claim 63, wherein the sequence coding for tetracycline resistance is the *Tet* gene of plasmid pBR322.
- 69. (New) A host cell according to claim 63, wherein the sequence coding for kanamycin resistance is the *kan* gene of plasmid pET29c.
- 70. (New) A method for producing a fusion protein having the activity of both uridine phosphorylase and purine nucleoside phosphorylase enzymes, said method comprising:
 - a) culturing a host bacteria cell according to claim 66; and
 - c) isolating and purifying the fusion protein from the transformed bacteria cell.
- 71. (New) A method according to claim 52, wherein the heterocyclic compounds are selected from the group consisting of imidazoles, triazoles and pyrazoles.
- 72. (New) The method according to claim 51, wherein the purine bases are substituted at at least one of the 1, 2 and 6 positions of the purine ring and the pyrimidine bases are substituted at at least one of the 3 and 5 positions of the pyrimidine ring.
- 73. (New) The method according to claim 51, wherein the substituted purines are selected from the group consisting of purine, 2-azapurine, 8-azapurine, 1-deazapurine (imidazopyridine), 3-deazapurine, and 7-deazapurine.
- 74. (New) The method according to claim 49, wherein the donor nucleoside contains the ribose group modified in the 2', 3' or 5' positions.
- 75. (New) The method according to claim 49, wherein the sugar of the donor nucleoside is selected from the group consisting of β-D-arabinose, α-L-xylose, 3'-deoxyribose, 3',5'-dideoxyribose, 2',3'-dideoxyribose, 5'-deoxyribose, 2',5'-dideoxyribose, 2'-amino-2'-deoxyribose, 3'-amino-3'-deoxyribose, and 2'-fluoro-2'-deoxyribose.